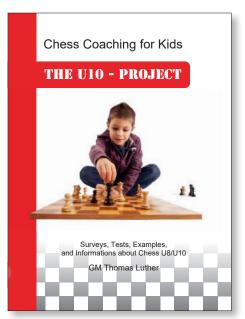# The Data Arms Race

With increasing availability of amateur and junior games online, learning from peer mistakes is becoming the latest coaching tool.

By **JOHN HARTMANN**

CHESS COACHING FOR KIDS: THE U-10 PROJECT IS ONE OF SEVERAL DATA-DRIVEN NEW BOOKS AIMED AT YOUNGER PLAYERS.

PROFESSIONAL SPORTS ARE BECOMING increasingly data-driven at the highest levels. Baseball teams obsess over exit velocity, spin rate, and advanced sabermetrics, while basketball analysts chart shot selection and work to quantify defensive abilities. All this is done in the interest of efficiency and improved results.

Chess players are no exception to this trend. Data-driven players use engines and immense databases to study their opponents and hone their intuition. Some rely on off-the-shelf databases like MegaBase or The Week in Chess. Others "roll their own," searching out correspondence games and engine matches to increase their data trove.

One interesting effect of this "data arms race" is the availability of amateur and junior games—not just players rated under 2000, but under 1400 or even 1000—for analysis and study. This presents some intriguing possibilities for both players and coaches.

If we want to understand typical errors made by amateurs and juniors, it might make sense to undertake a study of their games. Italian FM Franco Zaninotto has published two books that aim to do just that. *Super Chess Kids: Win Like the World's Young Champions!* (New in Chess, 2018) and *Learning from the Mistakes of Others* (Joachim Beyer Verlag, 2019) are twin titles that draw their content from games by lower-rated players.

Super Chess Kids focuses on "strategy" (Part I) and "tactics" (Part II), using games from youth championships from around the world as examples. Learning from the *Mistakes of Others* takes a broader view, with positions from amateur games employed as "teachable moments" in all three phases of the game. Because both books are structurally similar, we will treat them together.

The main sections of Zaninotto's books consist of concise thematic chapters followed by a series of positions to solve with their solutions. The "Calculation" chapter (*Super Chess Kids*, 78-84) is typical, offering advice for improving one's calculation along with illustrative examples. His advice (78-79) is based on Kotov, but it boils down to (a) finding sensible candidate moves, and (b) choosing the strongest one. All five examples in this chapter include this dual admonition, and each can be solved by doing as Zaninotto asks. Here's an example: where White played 13. Qe3—what did he miss?

There are a number of plausible candidate moves (13. Ng6, 13. Bf4, 13. Bb5), but by following Zaninotto's model, and by focusing first on forcing moves, White might have found **13. Nxf7! Rxf7 14. Qxe6** (Good for Black is 14. Bxe6? Nf8 15. Bxf7+ Kxf7) **14. ... Qe8 15. Qxe7 Qxe7 16. Rxe7** with a tremendous advantage.

But White didn't play the best move. Why? Because he took seven minutes to play 13. Qe3, Zaninotto speculates that White analyzed 13. Nxf7 but missed the pin on the rook on f7, which might suggest a problem of visualization. How to improve this? Zaninotto offers seven bits of advice or "exercises," all of which can be reasonably enacted by chess mortals.

Super Chess Kids is focused on strategy and tactics writ large, covering weaknesses, piece play, positional evaluation, calculation, attack, and defense. *Learning from the Mistakes of Others* has sections on theoretical and "strategic" endings, broad middlegame themes like "chess culture" and developing a plan, and a short coda on the opening. The chapter on "Mistakes and Mindsets" is particularly good and could be used effectively as a stand-alone lesson with a student.

Zaninotto describes his work (*Learning*, 6-7) as being aimed at players roughly 1400-1800 FIDE, with some wiggle room on both ends, and that seems accurate. There's nothing earth-shattering in his prescriptions, but I suspect that's the point—what Zaninotto has done here is collect solid, time-tested advice for improving players and he imparts that advice through use of well-chosen practical examples. The numerous exercises and didactic elegance common to both titles make them suitable for coaches and ambitious juniors alike.

Moving on: it's rare that a new book appear on my doorstep completely unexpectedly, but such was the case with *Chess Coaching for Kids: The U10-Project* (JugendSchachVerlag/Thinkers Publishing, 2018). It does not seem to be getting a real advertising push and that's a shame. This is a very interesting book.

Edited by GM Thomas Luther and written by a team including Heinz Brunthaler and Martin Weteschnik, *Chess Coaching for Kids* takes a more directly data-driven approach to coaching and improvement. The theoretical heart of *Chess Coaching for Kids* is a statistical analysis of over 1,400 games taken from national and international under-8 and under-10 tournaments.

Part I, "Analysis of Mistakes in U-8 and U-10 Tournaments," articulates a "points system" (8) to quantify mistakes. "Soft moves," or "small inaccuracies which … deteriorate the position long term," are not accounted for in this schema, as Brunthaler (the author of Part I) argues that most players are incapable of taking advantage of such nuances at this level.

What did they learn? The older players, not surprisingly, made fewer and less severe mistakes than did the younger ones, and tournament medalists make fewer "hard" and "soft" mistakes than do tail-enders, playing "purposeful" chess (26) that induced errors by their opponents. Gender also plays a role: girls tend to make more mistakes than boys in this age range and they do not advance as quickly. (They do not speculate about why.)

From this, Brunthaler concludes that coaching should focus on remedying both "clear mistakes," like those described above, and the "soft moves" that rot a position. (26) "[T]he strategic principles should be shown to kids as early as possible, even in the first months of training. Highlighting these principles (especially the violation of them) … should enable the kids to fully grasp their importance." (35)

Part II of *Chess Coaching for Kids,* written by the authorial collective, presents "practical examples" drawn from the U-8 and U-10 games. Topics include "openings and opening deficits," the pin in junior games, positional themes like weak squares and the seventh rank, and "fighting spirit." Here's a typical example, drawn from a game played between a D and an E player in a German girls' event:

"Sometimes, tactical chances are missed for fear of running into the opponent's trap (which, by the way, mostly was not the case). Here, Black presumably thought that her opponent would win back the piece and, therefore, abstained from the pawn fork. However, she should have calculated a little further:

19. … e4 20. Qe3 exf3 21. Qxe7

Probably White had only seen 21. … Qxe7 22. Rxe7 but even then Black is clearly better, for instance 22. … fxg2 23. Rxb7 and Black is much better.

Still better is 21. … Qc6 e.g. 22. Bb2 (otherwise the devastating 22. … Rfe8 will follow, skewering the queen and the mating square e1) 22. … Rfe8 23. Qg5 f6 24. Qg4 Ne2+ 25. Kh1 fxg2+ 26. Qxg2 Qxg2+ 27. Kxg2 Nf4+ 28. Kf3 Ne6 when Black is up two pawns.

And the best move is **21. … Ne2+! 22. Rxe2 fxe2 23. Qxe2 Rac8** with good winning chances for Black." (81)

We can see the utility of the work done in *Chess Coaching for Kids.* The example clearly illustrates a common mistake at this age and rating, and the authors use it to move into a discussion of the importance of visualization and how to train it. The advice is perhaps not as dense as in Zaninotto, but this makes sense if we consider audience. *Chess Coaching for Kids* is written entirely for coaches.

The bulk of the remainder of the book comes in Part III, which features five lengthy "tests" of increasing difficulty that can be given either whole-cloth or mined for teaching material. Three short sections (Parts IV, V, and VI) wrap things up, with discussion of the nature of talent, best coaching practices, and a study of U-12 games and training needs.

Chess Coaching for Kids is one of the first serious attempts to quantify success in high level junior chess. As such, I think it offers readers a useful lens to re-examine their ideas about coaching and improvement, both for their students and for themselves. It will be interesting to see if Luther *et al* continue their work with studies of more advanced players.

By way of conclusion, let me mention a new tactics book that, while not directly "data-driven," is rooted in a well-tested teaching philosophy. Frank Erwich's excellent *1001 Chess Exercises for Club Players* (New in Chess, 2019) takes its vocabulary and structure from the "Steps Method" or *Stappenmethode*.

Created by Rob Brunia and IM Cor van Wijgerden, the Steps Method is a structured program. Students are taught to discern key features of positions using "search strategies" and by solving exercises. Each of the six "Steps" builds upon previous ones, resulting in learners getting level-appropriate instruction, taking them from beginner (Step 1) through expert or low master (Step 6).

Erwich's book is a collection of tactical problems taxonomically organized as in the Steps. Erwich does a good job of explaining the key motifs through illustrative examples for non-initiates. The problems themselves are relatively advanced, but not impossible, and many diagrams have hints underneath them.

1001 Chess Exercises for Club Players is best suited for players over 1700 USCF, or those who have finished Step 3 of the Steps Method. It's a very good intermediate tactics book, and with its availability on Chessable, I think it might work very well for a Woodpecker-style study using spaced repetition. ♦

Zaninotto, Franco. Super Chess Kids: Win Like the World's Young Champions!. *New in Chess, 2018. ISBN Paperback: 9789056917746. 144 pages. (Available from* uscfsales.com, *catalog number B0199NIC, $16.95).*

Zaninotto, Franco. Learning from the Mistakes of Others. Joachim Beyer Verlag, e.K., *2019. ISBN Paperback: 9783959209823. 160 pages. (Available from* https://www.newinchess.com/learning-from-the-mistakes-of-others, *$20.95).*

Luther, Thomas. Chess Coaching for Kids–The U-10 Project: Surveys, Texts, Examples, and Informations about Chess U8/U10. *Thinkers Publishing, 2018. ISBN Hardcover: 9783944710358. 255 pages. (Available from* uscfsales.com, *catalog number B0035TH, $34.95).*

Erwich, Frank. 1001 Chess Exercises for Club Players: The Tactics Workbook that Also Explains All the Key Concepts. *New in Chess, 2019. ISBN Paperback: 9789056918194. 192 pages. (Available from* uscfsales.com, *catalog number B0220NIC, $18.95).*